

E. P. Chace. It seems very probable that Sonoma County, or perhaps Marin County, is the present southern limit of the genus in California, though fossil species have been reported from far to the southeast.

NEW SPECIES AND VARIETIES OF HELISOMA AND
GYRAULUS FROM CANADA¹

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Recently, a large collection of Canadian mollusks was received by the Natural History Museum from Dr. A. R. Cahn which probably included the largest aggregation of forms referred to *Helisoma corpulentum* ever studied by a conchologist. All ages were represented. A study of this material shows that the group is composite, including several species and races, and that certain forms which have been referred to other species were incorrectly placed, and represent new forms or belong to recognizable older names. The whole question of the variation of the Canadian species of the *trivolis-corpulentum* group will be discussed in a paper to appear in the Canadian National Museum report, in which the new forms will be figured. Diagnoses only of the new forms are given in this paper.

HELISOMA CORPULENTUM (Say).

Planorbis corpulentus Say, Long's Exped., II, p. 262, pl. xv, fig. 9, 1924.

In his description of *P. corpulentus* Say mentions the coarse wrinkles of the sculpture which he calls "rugged". Specimens from one of the type localities, Rainy Lake, exactly correspond with this description and may be taken as typical. This form is common in many lakes in Ontario, especially in Rainy Lake region. The rib-like wrinkles are about one millimeter apart. Adult specimens of the size of Say's figured specimen are in the Canadian collections.

¹ Contribution from Natural History Museum, University of Illinois, No. 69.

HELISOMA CORPULENTUM MULTICOSTATUM, new race.

Shell differing from typical *corpulentum* in having finer rib-sculpture, three costae in the space of a millimeter; the basal whorls very flat, showing nearly three full turns, while *corpulentum* shows a trifle more than two whorls; the shell is also larger, with nearly one-half more whorl; the whorls on both base and spire are usually more sharply carinate.

Height 13.8; Gr. diam. 24.0; Ap. H. 11.8; Diam. 8.0 mm.
Holotype.

Height 15.5; Gr. diam. 29.5; Ap. H. 13.0; Diam. 8.5 mm.
Paratype.

Height 14.2; Gr. diam. 26.8; Ap. H. 11.5; Diam. 7.8 mm.
Paratype.

Height 13.5; Gr. diam. 20.0; Ap. H. 11.1; Diam. 6.6 mm.
Paratype.

Holotype, Z32306; paratypes, Z32307, Museum Natural History, University of Illinois; paratypes, 158592, Academy of Natural Sciences of Philadelphia.

Type locality: Kahnipiminanikok Lake, Rainy River District, western Ontario, Canada.

This race is abundant in most of the lakes of western Ontario, usually replacing typical *corpulentum*. It will be recognized at once by its flat lower surface, sharply angled whorl below, and fine sculpture.

HELISOMA WHITEAVESI, new species.

This species may be recognized by the great axial height of the body whorl at the aperture, the flat, almost truncated spire surface, the fine striae, finer than *multicostatum*, the flatly-rounded base showing barely two whorls, and the large ear-shaped aperture, which gives the shell a physoid aspect.

Height 19.0; Gr. diam. 24.0; Ap. H. 15.5; Diam. 9.0 mm.
Holotype.

Height 18.2; Gr. diam. 23.2; Ap. H. 15.0; Diam. 9.0 mm.
Paratype.

Height 16.8; Gr. diam. 21.5; Ap. H. 14.2; Diam. 8.1 mm.
Paratype.

Height 12.0; Gr. diam. 10.4; Ap. H. 11.5; Diam. 5.0 mm.
Immature.

Holotype, Z32311; paratypes, Z32312, Museum of Natural History, University of Illinois; paratypes, 158591, Academy of Natural Sciences.

Type locality: Lac des Mille Lac, Thunder Bay District, western Ontario, Canada.

The striking heterostrophe shape, flat spire and high axial dimension distinguish this species. It is related to the race *multicostatum* of *corpulentum*, but no connecting specimens have been observed in any of the numerous lots examined. The radula is also peculiar. It is at present known only from the type locality.

HELISOMA INFRACARINATUM, new species.

Shell resembling *Helisoma pilsbryi* in general form but distinguished by a more or less heavy carina in the center of the basal whorls; the umbilical region is more sunken exhibiting three full whorls; the aperture is strongly ear-shaped, greatly expanded below and forming a strongly inverted V-shape above, and the lip is heavily reflexed, features absent in *pilsbryi*; the shell is also much thicker in *infracarinatum*. The radulae of the two species differ widely, that of *pilsbryi* having the formula 23-1-23 while in *infracarinatum* the formula varies from 32-1-32 to 37-1-37.

Height 14.0; Gr. diam. 25.5; Ap. H. 12.6; Diam. 8.5 mm.
Holotype.

Height 12.3; Gr. diam. 24.0; Ap. H. 11.0; Diam. 7.3 mm.
Paratype.

Height 12.3; Gr. diam. 23.0; Ap. H. 11.1; Diam. 7.2 mm.
Paratype.

Height 10.0; Gr. diam. 18.0; Ap. H. 9.5; Diam. 6.0 mm.
Paratype.

Holotype, Z32361; paratypes, Z32362, Museum of Natural History, University of Illinois; paratypes, Academy of Natural Sciences, No. 158594.

Type locality: Basswood River rapids, Rainy River District, western Ontario, Canada.

This species is one of the most abundant *Helisomas* in Canada, and its range extends well into the United States. It has been referred to both *corpulentum* and *pilsbryi* but appears distinct from either. It most nearly resembles *pilsbryi* and many specimens would be referred to this species by the shell alone. The variation in the angulation of the lower whorls is very great, in some individuals being almost absent. It is usually present in the earlier whorls thus dif-

fering from *pilsbryi*. It lacks the flattened whorls of the race *multicostatum* with which it has been confused.

GYRAULUS LATISTOMUS, new species.

Shell resembling *Gyraulus deflectus obliquus* but smaller, the whorls rounded with no sign of angulation; whorls three, rapidly enlarging in diameter; sculpture of growth lines only; spire flat, apex sunken below general surface; umbilicus deep and wide; last whorl deflected near aperture; aperture oblique, expanded, the upper part extending far forward of the basal part; inner lip forming a callus which spreads over the columellar region.

Height 2.4; Gr. Diam. 4.4; Ap. breadth 1.5; Diam. 1.3; Height 1.0 mm. Holotype.

Height 1.8; Gr. Diam. 4.0; Ap. breadth 1.4; Diam. 1.2; Height 1.0 mm. Paratype.

Holotype, Z32340; paratypes, Z32341, Museum of Natural History, University of Illinois; paratype, Academy of Natural Sciences, No. 158598.

Type locality: McAree Lake, Rainy River District, western Ontario, Canada.

This little *Gyraulus* apparently differs from all other species now known. In a way it resembles the *obliquus* race of *deflectus*, but has a less number of whorls and the aperture is quite different. The chief feature of note is the rapid expansion of the last whorl and the very wide aperture, almost round when viewed from the under surface. It is known at present only from the type locality.

A NEW SPECIES OF CRASSATELLITES FROM THE GULF OF CALIFORNIA

ERIC KNIGHT JORDAN¹

CRASSATELLITES LARONUS, new species.

Shell large, of medium thickness, gently inflated; beaks anterior and turned posteriorly; anterior end of valve

¹ The manuscript containing the results of a study of the Pleistocene mollusks of Magdalena Bay by the late Mr. E. K. Jordan is completed and contains a figure of the species here described. The description is published in advance due to the necessity of having a name for use in publications now in progress.—L. G. Hertlein.